## R45 and R45 Disc Hub Specifications

			Flange Diameter Drive Side and		Center to Flange	Frame		Upgrade and		
Hub Type	Axle Type	Axle Width (mm)	non-Drive Side(mm)	Center to Flange Drive Side (mm)	Non-Drive Side (mm)	Attachment Options	Available Spoke Hole Drilling	Conversion Options	Weight – Steel (grams)	Weight – Ceramic (grams)
R45 Front	two piece	100	39.8	34.8	34.8	QR	16, 18, 20, 24, 28, 32	-	103	99
R45 Rear	one piece	130	51.0	17.0	34.3	QR	20, 24, 28, 32	1	224	218
R45 Campagnolo Rear	one piece	130	51.0	17.0	36.3	QR	20, 24, 28, 32	-	240 <sup>a</sup>	231ª
R45 Disc QR Front	two piece	100	57.4	30.6	22.3	QR	24, 28, 32	2	161	157
R45 Disc 100mm x 12mm TA Front	one piece	100	57.4	30.6	23.3	12mm TA	24, 28, 32	-	160	156
R45 Disc QR Rear (Gen 1)	one piece	135	57.4	19.3	34.3	QR	24, 28, 32	3	276	271
R45 Disc Campagnolo QR Rear (Gen 1)	one piece	135	57.4	19.3	34.3	QR	24, 28, 32	-	295ª	286ª
R45 Disc 142mm x 12mm Rear (Gen 1)	one piece	142	57.4	19.3	34.3	12mm TA	24, 28, 32	-	274	269
R45 Disc Centerlock QR Front	two piece	100	57.4	30.6	22.2	QR	24, 28, 32	2	144	140
R45 Disc Centerlock 100mm x 12mm TA Front	one piece	100	57.4	30.6	22.2	12mm TA	24, 28, 32	-	143	139
R45 Disc Centerlock 135mm QR Rear	one piece	135	57.4	18.7	33.0	QR	24, 28, 32	3	267	262
R45 Disc Centerlock 142mm x 12mm Rear	one piece	142	57.4	18.7	33.0	12mm TA	24, 28, 32	-	266	261
R45 Disc Centerlock Campagnolo 135mm QR Rear	one piece	135	57.4	18.7	33.0	QR	24, 28, 32	-	277 <sup>a</sup>	272 <sup>a</sup>
R45 Disc 135mm QR Rear (Gen 2)	one piece	135	57.4	18.7	33.0	QR	24, 28, 32	3	278	273
R45 Disc Campagnolo 135mm QR Rear (Gen 2)	one piece	135	57.4	18.7	33.0	QR	24, 28, 32	-	289ª	284ª
R45 Disc 142mm x 12mm Rear (Gen 2)	one piece	142	57.4	18.7	33.0	12mm TA	24, 28, 32	-	275	270
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Campagnolo hubs come with an 11-tooth lock ring (5.5g). Optional 12-tooth lock ring available aftermarket.

Wheel Building Specifications

Spoke Gauge: 13, 14, or 15 gauge

R45 Lacing Pattern: R45 Disc Lacing Pattern: Radial Lacing is an acceptable pattern for front wheels and the non-drive side of rear hubs. Drive side of rear hubs must be 2-or-more cross

2-or-more cross Gen 1 & Gen 2 Serial Prefix

Spoke Hole Diameter: 2.5mm Spoke Tension: Should not exceed 120kgf (1200N) Gen 2 - 6910

spoke Tension for Radial Lacing: Should not exceed 90kgf (900N)

Upgrade and Conversion Options

1. Convertible to Campagnolo driveshell, requires a kit and an axle

2. Convertible to 12mm TA, requires an axle

3. Convertible to 142x12mm TA, requires an axle

Gen 1 - 6510